POPULATION TODAY

Vol. 17, No. 11 November 1989

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PRB *A publication of the Population Reference Bureau, Inc.*

FROM THE EDITOR'S DESK

You can't get there from here.

PRB answers well over 100 population-related questions a week from the general public. Being a population resource is a hard vocation – many of the figures are either older than one would like or broader than a barn door, if they exist at all.

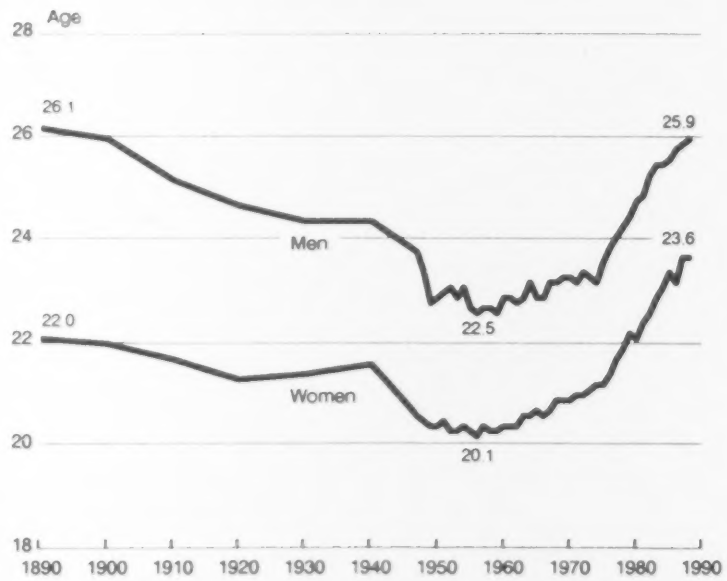
Herewith a list of questions which you would think have readily available answers. But *Noooooo*.

- How many countries are there? Colonies, disputed areas, and jurisdictional nuances make this a tough call.
- How many children will today's women have? You can project how many they *would* have given various assumptions, including the fertility of yesterday's women, but that's about all.
- Number of Asian Americans? The most recent numbers for this group are as of 1980.
- Number of emigrants? A ballpark figure is 160,000 annually, but nobody actually *counts* them as they leave the U.S.
- Percentage of population who are only-children? No figures on this subpopulation are available; you could probably make a guess based on women's parity and come up with a figure of 18 percent.
- Numbers of people around the world, by race, language, or religion? Forget it.
- Population of the Pacific Rim? No problem with country populations, but what *is* the Pacific Rim?

– Art Haupt

SPEAKING GRAPHICALLY

Median Age at First Marriage by Sex: 1890-1988



The U.S.'s 20th-century romance with earlier marriage age is over, the Census Bureau reports. As the graph above shows, men marry at the same average age their forbearers did in 1890, while women are marrying later than theirs. However, the average age difference between marrying men and women has diminished.

Single people aged 18 and over number 66 million as of 1988, constituting 37 percent of all adults. Nonetheless, it is estimated that about 90 percent of people will marry at some point in their lives.

Source: *Current Population Reports*, P-23, No. 162, Studies in Marriage and the Family, 1989.

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Demographers Convene in India

Nearly 1,000 population experts from around the world assembled during September 20-27 at New Delhi's Vigyan Bhavan Center for the XXIst International Population Conference, sponsored jointly by the International Union for the Scientific Study of Population (IUSSP) and the Indian Association for the Study of Population.

India's Prime Minister, Rajiv Gandhi, opened the conference. (In 1951, the VIIth International Population Conference was also held in New Delhi, under the patronage of Prime Minister Jawaharlal Nehru.) In his address, Gandhi reaffirmed his top-level commitment to reducing India's population growth rate and urged that India's family planning efforts move closer to the grassroots level and increase the involvement of women and the poor.

"I would hazard a prophecy," Gandhi said, "that a delivery system run and supervised by the poor, deprived, and largely illiterate people of India will prove far more effective than the paternalistic model of planning, administration and implementation which we have relied upon so far."

Ashish Bose, President of the Indian Association for the Study of Population and Chair of the Conference Organizing Committee, echoed the PM's sentiments in his own welcome: "I have been pleading for a long time for a shift from *population* to *people;* a shift from the number game of targets and achievements to a more realistic and humane approach in implementing our programs."

Delegates from 90 countries chose from 27 formal sessions, 22 informal sessions, and two roundtables dealing with topics that ranged from cohabitation, aging, immigration issues in developed countries to population policies, the growth of mega-cities, and the effectiveness of family planning programs in LDCs. Asian demographic studies were prominent on the agenda. There were also sessions on new methodologies and data-collection issues, including the use of laptop computers in survey research.

With nearly 1,800 members from more than 100 countries, IUSSP is the sole worldwide organization of professionals in population studies.

In New Delhi for IUSSP were (from left to right) Indian Prime Minister Rajiv Gandhi, Organizing Committee Chair Ashish Bose, UNFPA Director Nafis Sadik, and IUSSP Honorary President William Brass

During the meetings, three IUSSP General Assemblies reviewed reports on the work of special research committees and inaugurated new officers, including Massimo Livi-Bacci (Università degli Studi di Firenze) as President and Jack Caldwell (Australian National Univ.) as Vice President.

> IUSSP brought together population people from around the world

Jane Menken (Univ. of Pennsylvania) was one of nine Council members elected, and Mary Kritz (Cornell Univ.) will serve on the Nominating Committee for elections to be held in 1993.

During their off-hours, delegates sampled the varieties of Indian food offered at hotel restaurants and shopped for silk, gems, and other Indian specialties at local bazaars and handicraft centers. Delegates who chose the excursion to the splendid Taj Mahal in Agra, 200 km (125 miles) southeast of Delhi, also had an opportunity to experience population pressure first-hand as their buses (or taxis) dodged people, ox carts, pedicabs, trucks, and other buses along the crowded road that connects the two cities.

The United States was sparsely represented at the Conference. Limited financial support for the costly trip along with scheduling of the meeting just after the start of the school year kept many potential delegates at home. African delegates expressed concern that no one from their ranks was elected to the Council and proposed that measures be taken to maintain adequate representation of their interests in planning future IUSSP activities and conferences.

IUSSP meets every four years, and its next meeting may prove more accessible to North Americans. Speaking on behalf of Canadian demographers at the closing General Assembly, Alan Simmons (York Univ.) presented an invitation endorsed by Prime Minister Brian Mulroney and other top officials for the XXIInd International Conference to be held in Montreal in 1993.

– T.M.

22 Percent of Mexico Moving North?

A *Los Angeles Times* poll recently investigated the attitudes of Mexicans on problems in their country and their desire to live in the U.S. The survey, conducted in 42 randomly selected Mexican towns and reported in August, found that 22 percent said that it was "very likely" or "fairly likely" that they would be living in the U.S. by next year.

Although the poll is thought to represent respondents' attitudes more than immediate plans, taking the survey results literally and applying them to the national population, these responses would indicate that about 19 million Mexicans are packing their bags. – *C.H.*

New Module For Students

The third edition of the popular teaching module, "World Population: Toward the Next Century," is now available. This module is a short, clearly written unit on world population trends for students and nonexperts. It answers some of the most commonly asked questions about world population trends. This edition includes new questions on AIDS, carrying capacity, population density, and the environment, as well as the old standbys – current population figures, population distribution, family planning projections and policies.

The reading includes maps, charts, and tables. The module also contains a glossary, reproducible worksheets, and a list of books and other publications for additional research and reference. "World Population: Toward the Next Century" is accompanied by a teacher's guide, which includes worksheet answers in the module and audiovisual resources. – *K.C.*

Copies of "World Population: Toward the Next Century" with the teacher's guide can be ordered from PRB, Circulation Dept., PO. Box 96152, Washington, D.C. 20090-6152, with checks payable to PRB. Prices to nonmembers are $3.00 per single copy, 2 copies or more $2.25 ea. PRB members receive a 20 percent discount for one copy. Orders of $50 or less must be prepaid and include $1.00 or 5 percent (whichever is greater) for postage and handling. Visa and MasterCard accepted. Call 1-800-877-9881.

WASHINGTON WATCH

Appropriations Update

In mid-September, the full Senate Appropriations Committee approved its version of the Fiscal Year (FY) 1990 appropriations bill for the Departments of Labor, Health and Human Services, Education, and Related Agencies. The Committee approved allocations of $450.6 million for the National Institute of Child Health and Human Development (NICHD) and $245.5 million for the National Institute on Aging (NIA), which are the two largest sources of funding for demographic research.

The Appropriations Committee included a provision that would delay any decision on providing funds for NICHD's survey of human sexual behavior until its pretest instrument – already funded and currently awaiting final approval from the Department of Health and Human Services – is completed. In its version of the bill passed earlier in the summer, the House voted to delete more than $11 million earmarked for the survey, denouncing the project as a misuse of public funds.

Supporters of the study – which is expected to provide the first new data on Americans' sexual behavior and experiences since the Kinsey Report of the 1940s and may help target at-risk populations for the AIDS virus – have expressed hope that the Senate language will allow the pilot study to continue and determine the future of the project later.

Other highlights of the Senate appropriations bill include: 1) language urging NIA to begin implementation of a new longitudinal survey of Americans' health and retirement; 2) preservation of the registration of marriage and divorce statistics at the National Center for Health Statistics; and 3) recognition throughout the National Institutes of Health portion of the bill for the role of behavioral and social science research. The Senate bill now goes before the full Senate for approval and ultimately to a joint House-Senate conference which will reconcile both chambers' bills.

Census Developments

The House of Representatives has approved its FY 1990 appropriations bill for the Departments of Commerce, Justice, State, the Judiciary and Related Agencies. Included in the allocation for the Department of Commerce is $1.4 billion for the Bureau of the Census for FY 1990.

Although the House approved $811 million more than the FY 1989 level, several items requested in the President's budget received reduced funding or were not funded at all. For example, the bill includes $1.3 billion for censuses and programs for 1990, more than $57 million less than the budget request. Reflected in the lower allocations are decisions to deny a requested increase of $2 million (and 54 positions) to redesign census surveys and samples and denial of a requested increase of $500,000 to procure additional equipment for computer-assisted interviewing.

Highlights of the package include an allocation of $200,000 to develop a plan and pretest a survey to collect information on individuals with disabilities and an increase of $800 million for additional activities necessary for the 1990 Decennial Census.

In other news, legislation to improve the ability of the Census Bureau to attract and retain a qualified work force for the 1990 Census has been passed by the Senate and signed into law by President Bush. The bill, sponsored by Rep. Tom Sawyer (D-Ohio), exempts military and federal civil service retirees who are hired for short-term, temporary positions during the census from dual compensation provisions of the U.S. Code.

The Census Bureau estimates that it will need 340,000 field workers during its peak operations and this new law is expected to allow the Bureau to tap a pool of workers who otherwise would have been reluctant to risk these federal retirement benefits to work for the Census.

The Census and Population Subcom-

mittee of the House Post Office and Civil Service Committee is continuing its consideration of legislation to exclude undocumented residents in population counts used for reapportionment. The bill, introduced by Rep. Thomas Ridge (R-Pa.), contains provisions similar to an amendment adopted by the Senate in July as part of an immigration bill.

Foreign Assistance

The impetus for reform that dominated the formulation of a new foreign aid bill in the House was absent in the Senate as the Senate Foreign Relations Committee approved a foreign assistance reauthorization bill which includes provisions to authorize $201.9 million for population programs for FY 1990. This amount represents a $3.9 million increase over current funding and is $229,000 more than the President requested. The bill also incorporates two population policy provisions into the reauthorization.

The first, an amendment introduced by Sen. Nancy Kassebaum (R-Kan.), reverses current Administration policy which prohibits the transfer of U.S. population assistance to any foreign nongovernmental organization that uses its own funds to provide information or services relating to abortion. In its report accompanying the bill, the Foreign Relations Committee maintained that the policy, commonly known as the Mexico City Policy, goes well beyond any restriction in U.S. law and only serves to impede the effectiveness of the overseas family planning program. The Kassebaum amendment runs counter to provisions of the House Foreign Aid bill that would effectively codify the Mexico City Policy. The House foreign aid package was approved by the full House earlier this year.

The other provision, attached to the bill by Sen. Jesse Helms (R-N.C.), requires that foreign assistance not be conditioned on the acceptance, by any government or entity, of population planning assistance or any particular program of population planning. The bill now moves onto the Senate floor where it may be considered later in the fall after the Senate completes its work

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SURVEY REPORT

Jamaica

Jamaica, the third-largest Caribbean island, has a population of approximately 2.5 million. The Jamaican government has long been concerned about the rate of growth of the island's population. In 1967, the National Family Planning Board was created to administer and promote family planning programs in Jamaica. The relative success of the Board's activities has been documented by the decennial censuses and by specialized fertility surveys in the 1970s and 1980s.

The most recent survey, the 1989 Jamaican Contraceptive Prevalence Survey (JCPS), found that current rates of childbearing had declined 17 percent between 1983 and 1989, the total fertility rate falling from 3.5 to 2.9 lifetime children per woman.

Most Jamaican women recognize modern contraceptive methods; more than 90 percent of the women interviewed knew of the pill, injection, female sterilization, or condom. Almost all women had heard of the specific brands of pills (Perle) and condoms (Panther) distributed by the National Family Planning Board. Recognition of most modern methods has increased since the 1983 JCPS, with the greatest increase seen in percent of women knowing of male sterilization.

Use of contraception has also been increasing in Jamaica. In 1975-1976, 38 percent of women in union were using contraception. This grew to 51 percent in 1983, an increase of 35 percent. Although still increasing, contraceptive prevalence grew by only 6 percent between 1983 and 1989. Fifty-five percent of all women in union are currently using a method of contraception. Unlike many other developing countries, contraceptive prevalence in rural Jamaica actually exceeds that in the cities (56 percent versus 52 percent). The pill is the most commonly used method (19 percent), followed by female sterilization (14 percent), condom (9 percent), and injection (8 percent). Use of female sterilization and the condom have been increasing, while use of the IUD and vaginal methods has declined. Health centers and clinics are the primary sources for the pill and injection. Pharmacies are major providers of condoms and secondary providers of pills. Hospitals are the most common providers of female sterilization.

Almost all Jamaican mothers giving birth in the five years prior to the survey received some antenatal care and more than 9 out of 10 births were attended by health personnel. Almost two-thirds of the mothers received an anti-tetanus injection to protect their child from neonatal tetanus. Breastfeeding is almost universal and the average duration of breastfeeding is 13 months.

Virtually all Jamaican women have heard of AIDS, regardless of residence, age, or union status. Fourteen percent of these women feel they are at a great risk of contracting AIDS, 13 percent are at some risk, 20 percent at not much risk, and 53 percent say they are at no risk. Although many of these women correctly identified possible routes of transmission of the AIDS virus, misconceptions were common. Fifty-eight percent of the women having heard of AIDS believe the virus can be transmitted by giving a blood donation. Thirty-five percent think insect bites are routes of transmission, 16 percent think that sharing personal items can spread the virus, and 8 percent think being in the same room with a person with AIDS is risky.

— B.S.

DEMOGRAPHER'S PAGE

The Decline That Wasn't

by Robert D. Retherford, G. Mujtaba Mirza, Mohammad Irfan, and Iqbal Alam

This Demographer's Page, which points out the pitfalls of statistical estimating, is adapted from the authors' article "Fertility Trends in Pakistan—The Decline That Wasn't," that appeared in Asian and Pacific Population Forum, *Vol. 1, No. 2, February 1987.*

Robert D. Retherford is an Assistant Director and Research Associate at the East-West Population Institute, Honolulu. G. Mujtaba Mirza is former Census Commissioner of Pakistan. Mohammad Irfan is Chief of Economic Research at the Pakistan Institute of Development Economics. Iqbal Alam is with the Population Division, Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok.

Total fertility in Pakistan fell by about 12 percent between 1960 and 1975, according to findings from the 1975 Pakistan Fertility Survey (PFS). A quite different picture emerges, however, when fertility trends estimated from other data sources are juxtaposed with the PFS's estimated trends. Not only is there no evidence of any fertility decline; fertility appears actually to have increased during this period, both in rural and urban areas and in the country as a whole.

How could figures show an apparent decrease when an increase was taking place? That is the subject of the present analysis, which juxtaposes and compares own-children estimates of fertility trends derived from four successive household surveys: the 1973 Housing, Economic, and Demographic (HED) Survey, which was a reinterview (with a longer questionnaire) of a large subsample from the 1972 Census; the 1975 PFS, which was part of the World Fertility Survey; the 1979 Population, Labour Force, and Migration (PLM) Survey; and the 1981 Census.

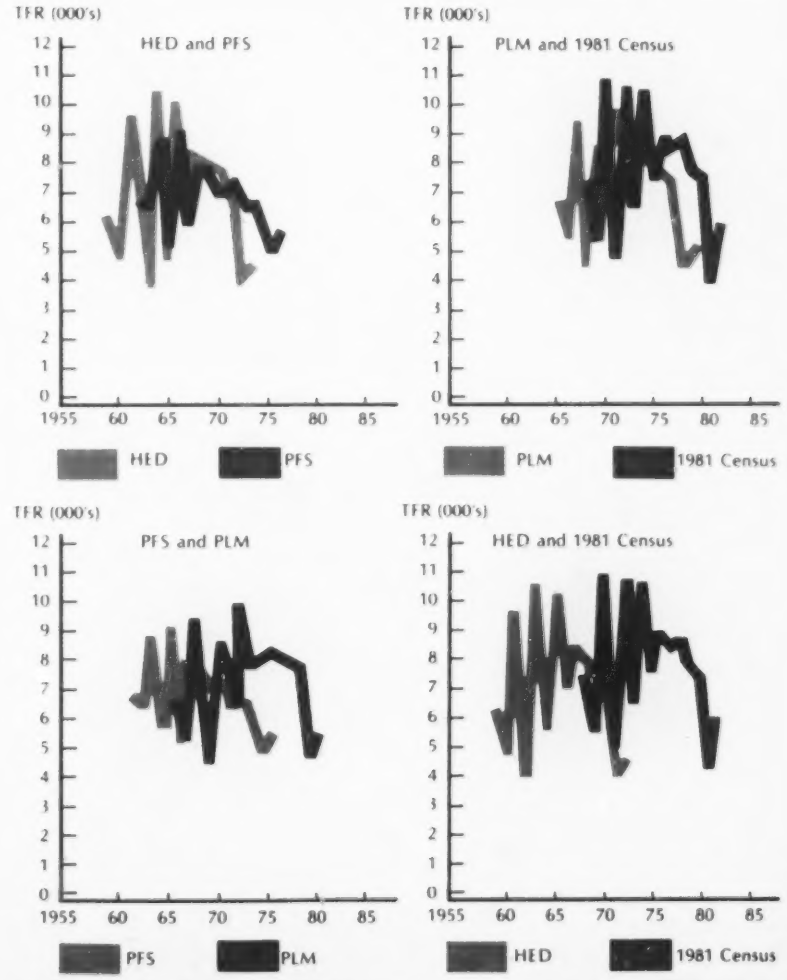
Results from Four Surveys

According to the PFS, the total fertility rate was estimated to be steady at about 7.1 children per woman during 1960-1970, falling to about 6.3 in 1975. Analysis of this trend showed that most of the decline was due to rising age at marriage.[1] These results were based on fertility estimates derived from birth histories from the survey's individual sample of ever-married women aged 15-49. A subsequent application of the own-children method of fertility estimation (in which couples' fertility is estimated from census data on households) to the survey's household sample indicated an even steeper decline in total fertility.[2]

Own-children estimates of the trend in the TFR, derived alternatively from each of the four surveys, are shown in Figure 1 and Table 1. Each data source individually points to large fertility oscillations 8-15 years before the survey, a sharp decline during the next six years, and a slight upturn in the year just before the survey.

Any one of the four data sources by

Figure 1: Comparison of Total Fertility Rates (TFR) from Four Pakistan Surveys



Note. HED = 1973 Housing, Economic, and Demographic Survey; PFS = 1975 Pakistan Fertility Survey; PLM = 1979 Population, Labour Force, and Migration Survey.

Table 1: Own-Children Estimates of Total Fertility Rates (TFR) for Pakistan, 1959-1981

	TFR (per 1,000 women)			
Year	1973 HED	1975 PFS	1979 PLM	1981 Census
1959	6,250			
1960	4,794			
1961	9,741	6,859		
1962	3,877	6,396		
1963	10,651	9,007		
1964	5,210	5,751		
1965	10,243	9,230	6,802	
1966	7,017	6,068	5,472	
1967	8,479	8,024	9,503	7,529
1968	8,150	7,809	4,430	5,510
1969	7,538	6,888	8,755	11,038
1970	7,344	7,521	7,264	4,832
1971	6,603	6,463	9,926	10,772
1972	3,883	6,814	7,825	6,263
1973	4,600	5,862	8,007	10,818
1974		4,856	8,248	7,278
1975		5,691	7,903	8,911
1976			7,694	8,297
1977			7,296	8,652
1978			4,624	7,749
1979			5,241	7,507
1980				4,084
1981				6,030
Total*	6,899	6,816	7,239	7,604

Source: Unpublished tabulations derived from the 1973 Housing, Economic, and Demographic Survey (HED), the 1975 Pakistan Fertility Survey (PFS), the 1979 Population, Labour Force, and Migration Survey (PLM), and the 1981 Census.

*The "total" TFRs were calculated from age-specific birth rates obtained by appropriately aggregating numerators (births) and denominators (women of a specific age).

itself might therefore lead one to conclude that a fertility decline was well under way by the time of the survey. But superimposing the four trend lines on top of one other indicates that fertility actually changed very little. Figure 1 shows very clearly that the four trends all began at approximately the same higher level and ended at approximately the same lower level, with a characteristic pattern of distortion in between. Thus the trend pattern repeats from one survey to the next, being simply displaced by the time interval between successive surveys. The figure is split into four panels, each showing a pair-wise comparison, so that the repeated pattern can be seen more clearly.

The first panel suggests that fertility may have increased between the HED and PFS surveys, since the end point of the trend estimated from the PFS is higher than that from the HED survey. But closer examination reveals that fertility peaks tend to be uniformly higher and fertility troughs uniformly lower in the HED-derived trend than in the PFS-derived trend.

These peaks and troughs are due mainly to age heaping on preferred digits. Heaping on age 10, for example, causes an estimated fertility peak in the 11th year before the survey and adjacent fertility troughs in the 10th and 12th years before the survey.

The comparison indicates two trends of about the same level and pattern, merely displaced in time. Thus the comparisons indicate that in reality fertility changed relatively little.

A clearer idea about how the TFR has been changing can be gained by aggregating the fertility data over calendar years. The more the data are aggregated, the greater the tendency for errors from age misreporting to cancel one another out. Our strategy was to obtain an estimate of the TFR for the entire 15-year estimation period previous to each survey.

Results are shown in the last row of Table 1 and in Table 2. The TFRs aggregated over 15-year time periods are all in the neighborhood of 7 children per woman. Rural fertility tends to exceed urban fertility slightly, especially for estimates derived from the later surveys, as shown in Table 2. The widening rural-urban difference reflects fertility increases that are larger in rural than in urban areas. It is worth noting that a period of fertility increase, occurring just before the onset of fertility transition, has often been observed in other countries, with likely causes being declines in widowhood and breastfeeding.[3] Thus the occurrence of fertility increase in Pakistan is by no means extraordinary.

Note, however, that the increases in the aggregated TFRs between the PLM survey and the 1981 Census in Table 2 are implausibly large, since the consecutive 15-year time periods (1965-1979 and 1967-1981) largely overlap, differing in time location by only two years. The results are therefore not very consistent, despite the high level of aggregation.

Discussion

For the trend estimated from each survey, Figure 1 shows a spurious pattern of fertility change that consists of large fertility oscillations 8-15 years before the survey, a substantial fertility decline during the next six years, and a slight fertility upturn in the year just before the survey. In Asia, this pattern has been found in own-children fertility estimates not only for Pakistan but also for Nepal and Indonesia.[4] We suspect that it also characterizes India and Bangladesh, but we do not have the detailed own-children fertility estimates necessary to test this prediction.

Retherford and Alam[5] have advanced the hypothesis that the large oscillations during the period approximately 8-15 years before the survey reflect

Continued on next page

Table 2: Own-Children Estimates of Total Fertility Rates (TFR) by Urban-Rural Residence

Survey and time period	TFR (per 1,000 women) Rural	Urban	Total
HED 1959-1973	6,940	6,727	6,899
PFS 1961-1975	6,810	6,827	6,816
PLM 1965-1979	7,360	6,932	7,239
1981 Census 1967-1981	7,778	7,305	7,604

Source: Unpublished tabulations derived from the 1973 Housing, Economic, and Demographic Survey (HED), the 1975 Pakistan Fertility Survey (PFS), the 1979 Population, Labour Force, and Migration Survey (PLM), and the 1981 Census.

severe heaping on ages 8, 10, and 12, corresponding to births in the 9th, 11th, and 13th years before the survey. They have further hypothesized that the comparatively low fertility estimates during the five years or so immediately preceding the survey are due mainly to age exaggeration from upward rounding of children's ages.

For example, at actual age 0 (corresponding to births during the first year before the survey), it is possible that many children of 11 months (and perhaps younger ages) are reported at age 1, resulting in a deficit of children reported at age 0 and a corresponding underestimate of births during the first year before the survey.

At actual age 1, corresponding to births during the second year before the survey, substantial rounding to two years may occur not only at 23 months of age but also at 22 and 21 months and perhaps even younger ages. Thus the tendency to round upward from age 1 to age 2 may be substantially greater than the tendency to round upward from age 0 to age 1, resulting in an especially large deficit of children reported at age 1.

Upward rounding that is substantially more pronounced for 1-year-olds than for 0-year-olds may explain the frequent and usually spurious finding that fertility is lower in the second year before the survey than in the first year. At actual ages 2, 3, , 8, it is plausible that the rate at which upward rounding increases with age, diminishes with age, so that estimated fertility increases as one moves backward in time. At childhood ages beyond 8 (corresponding to births nine or more years before the survey), heaping on ages 8, 10, and 12 predominates, resulting in sharp peaks in the TFR and in age-specific birth rates (ASBRs) during the 9th, 11th, and 13th years before the survey.

Independent data on contraceptive use also suggest that fertility has remained high and fairly constant in Pakistan, at least up to the end of the 1970s. Contraceptive use rates in 1975 were very low, in the neighborhood of 5 percent of currently married women of reproductive age, and may actually have decreased to about 3 percent during the late 1970s.[6,7]

Recent estimates for the TFR derived by applying Rele's method to the 1981 Census of Pakistan suggest a TFR of about 6.5, which is about one-half child lower than our estimate of about 7.[8] But the estimate of 6.5 is too low, because it is effectively based on a child-woman ratio of children aged 0-9 to women aged 15-54, which is underestimated because of upward rounding of children's ages to age 10.

It is also noteworthy that fertility trends estimated from birth histories in the PFS and PLM surveys show essentially the same pattern of poor overlap as do fertility trends estimated from own-children data in these surveys, for the same hypothesized reasons having to do with age misreporting. The birth histories yield two declining fertility trends that start at about the same higher level and end at about the same lower level, the trends differing only in being displaced in time by the interval between the two surveys.[9] Again the conclusion is that in reality fertility did not decline at all.

Continued on next page

ANNOUNCEMENTS

Call for Visiting Scholar

Applications are invited for the PRB Visiting Scholar Award for the nine-month period beginning September 1990.

The recipient of the award, made available under a grant from the Andrew W. Mellon Foundation, will be expected to spend at least nine months at PRB's Washington, D.C., headquarters carrying out a population-related project of either domestic or international focus. Priority will be given to policy-oriented projects that attempt to synthesize work on a particular topic.

The negotiable stipend is comparable with academic salaries and includes the cost of transportation to and from Washington, D.C. Applicants are requested to submit a brief estimate of their transportation cost and salary requirements.

The closing date for applications is Jan. 15, 1990. To apply, interested individuals should forward a brief description of their planned activities, with a curriculum vitae and a sample of recent publications, to the address below.

Call for Interns

Applications are invited for the PRB Internship Program for either of two upcoming periods:

1. January-May 1990. (Deadline for applications, Dec. 15, 1989; announcement of awards will be made promptly.)

2. Summer 1990. (Deadline for applications, Feb. 1, 1990; announcement of awards will be made Mar. 1, 1990.)

PRB internships provide an opportunity for persons with a strong interest in population to work under the supervision of professional demographers on a wide range of national and international issues.

Interns usually work 35 hours a week and receive a stipend of $8.00 per hour.

Both undergraduate and graduate students are eligible. Some previous population work is useful but not a prerequisite.

Interested individuals should forward a letter of application describing their completed academic studies, future academic plans, interests in the field of population, and any additional information that supports their candidacy. Three letters of recommendation from instructors should be sent separately. Send applications for either intern period to the address below:

Dr. William O'Hare
Visiting Scholar Program
Population Reference Bureau
777 14th St., N.W., Suite 800
Washington, D.C. 20005

For further information, contact Bill O'Hare at (202) 639-8040.

Demographer's Page

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Conclusion

Each of the four demographic surveys examined here indicates a substantial fertility decline during the seven years or so preceding enumeration. However, when the four estimated trends are analyzed together, it becomes clear that the individually estimated declines are spurious, and that in reality, fertility did not decline at all during the two decades or so preceding the 1981 Census. On the contrary, the results indicate that the TFR actually increased, from somewhat below 7 children per woman to somewhat above 7 children per woman.

The analysis shows additionally how treacherous an enterprise a demographic analysis can be when age misreporting is severe. But it also shows that when several data sources are analyzed together and the results compared in appropriate ways, surprisingly firm conclusions can be reached. They can be reached, moreover, from analysis of simple census-type counts without reliance on detailed birth histories, which are expensive to collect.

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Washington Watch

Continued from page 5

on the 13 appropriations bills. If the bill is approved by the full Senate, it will then be sent to a conference committee where differences with the House bill will be resolved.

However, there has been no move to schedule the bill for floor action and, like the last several attempts to craft a foreign aid bill in the Senate, it may never be approved by the full Senate.

While the foreign aid reauthorization process may again encounter difficulties this year, the FY 1990 foreign assistance appropriations have been winding their way through Congress. The House has approved a FY 1990 appropriations bill for foreign operations. It includes $201 million for population and development assistance with several stipulations.

The Committee included language in the bill that prohibits the provision of funds to any program or organization that supports or participates in coercive abortion or sterilization. The bill also states that population assistance cannot be used to pay for the performance of abortions as a method of family planning or to motivate or coerce abortions and goes on to provide that population funds shall be available only to voluntary family planning projects which offer information about a broad range of family planning methods and services.

In the Senate, a similar bill with the same stipulations has been approved by the Appropriations Committee and is awaiting consideration by the full Senate. The Senate Foreign Operations Appropriations bill allocates $220 million for population assistance programs.

– Brian Cove

Brian Cove is a legislative program assistant in the Washington, D.C. office of the Population Resource Center. The Center monitors legislative issues of concern to the Population Association of America. Neither the Center nor the Association advocates any particular population policy but works to protect funding for quality demographic research.

POPULATION UPDATE

Estimated United States Population:

As of July 1, 1989	248,777,000
As of July 1, 1988	246,329,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 1042.

Estimated World Population:

As of November 1989	5,265,000,000
Annual growth	93,000,000

Extrapolated from the mid-1989 population on PRB's *1989 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: May 1989

	12 months ending with May					
	Number		Rate			
Item	1989	1988	1989	1988	1987	1986
Live births	3,950,000	3,841,000	16.0	15.7	15.5	15.7
Deaths	2,150,300	2,169,000	8.7	8.9	8.7	8.7
Natural increase	1,797,000	1,672,000	7.3	6.8	6.8	7.0
Marriages	2,382,000	2,379,000	9.6	9.7	10.0	10.1
Divorces	1,176,000	1,167,000	4.8	4.8	4.8	4.9
Infant deaths	38,600	38,400	9.8	10.1	10.2	10.4
Population base (in millions)			246.9	244.3	242.1	239.8

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.

Source. Monthly Vital Statistics Report (Vol. 38, No. 5) from the National Center for Health Statistics.

TAKE A NUMBER

Bawlamer-Warshington? A bit of a fuss has been raised in the cities of Baltimore and Washington, a tempest prompted by their impending statistical marriage following the 1990 Census. Local news accounts are replete with twinning labels as "Washmore" and "Baltington."

Why? Has some fundamental change been observed in the characters of these completely dissimilar cities? Why was such a realignment not made after the 1980 Census? The situation is dicey since residents of Baltimore reportedly view Washington, along with its suburban Maryland counties, as an alien land. Washingtonians typically view "Bawlamereans" as quaint curiosities. True, Baltimore has seen some changes, highlighted by its successful development of the Inner Harbor area for the convention and tourist trade, but this image ends within a few blocks. The real Baltimore consists of its colorful ethnic neighborhoods, white marble stoops, and crab houses.

The coming statistical consolidation has, in fact, little to do with the two *cities* involved. It is far more a function of the interchange in their suburban counties. Two Metropolitan Statistical Areas (MSAs) are blended into one consolidated Metropolitan Statistical Area (CMSA) if the commuting interchange between them is 15 percent of the *smaller* area's labor force. This requirement drops down to 10 percent if the Urbanized Areas (UAs) of both MSAs are contiguous for at least one mile. In 1980, the MSAs were one mile apart (between Laurel and Columbia, Md.) and the commuting interchange was 9.9 percent, very close to the needed criteria.

But the interchange of commuters is largely a function of journey-to-work patterns among suburban counties such as Howard County (in the Baltimore MSA) and Montgomery and Prince George's (in the Washington MSA). It also results from an accident of geography in that Baltimore's Anne Arundel County wraps around the D.C. area on the east and sends commuters into Washington.

A major controversy may erupt when it comes to actually *naming* this new area. By the rules it would be the Baltimore-Washington CMSA since the central city of Baltimore has a larger population (750,000) than does Washington, D.C. (625,000). This would place the Nation's Capital City in the numerical shadow of Charm City to the North.

There is, however, a more geo-, socio-, culturo-economically acceptable way of demarcating metro areas (Census Bureau take note). In the case of "Washmore," drive around and find the points where the newspaper boxes begin changing over from the *Washington Post* to the *Baltimore Sun*.

– C.H.

SOFTWARE

Pyramid Scheme. While never designed for such a purpose, the popular Harvard Graphics program for IBM PCs can be "forced" to produce a stack of opposed-bar charts that just happens to mimic a population pyramid perfectly. (A laser-printed example of the result appears on page 1.)

Here's how: Switch to Harvard's options settings (accessible through <F8>). Then enter the data (either directly or by importing the numbers). Males, who appear on the pyramid's left, are entered as negative numbers. Until you get all the data and proportions right, let these negative numbers show on the chart. Enter females as positive numbers. Then for your final output call for Y1 Axis Labels as "None," and enter the labels by hand using Draw-Annotate.

To align the bars next to each other, call for the "Step" Bar Style. You'll also want to specify Horizontal Chart as "Yes," and have a "Quarter" Frame Style with the Y Tick Mark Style set to "Out." And don't forget to set your Minimum and Maximum Y1 Axis Values to a level which gives your pyramid good proportions.

When you go to print, try setting the output to "Portrait" form (again on <F8>), and use a one-quarter-page size. If you want to produce color slides, our extensive testing has revealed that a Bar Fill Style of "Both," with a Frame Background set to dark blue and Pattern set to empty bars comes out the best.

To help you experiment, a 360K floppy disk containing a completed set of charts for (as it happens) Ohio is available from PRB for $8.00 postpaid. It comes formatted in Harvard Graphics version 2.0 with all the settings in the right places. Send check to PRB, 777 14th St., N.W., Suite 800, Washington, D.C. 20005 Attn.: *PT* Harvard Disk.

– Stephen J. Tordella

ADDENDA

Sing Out, Demography

I'd like to someday be the owner
of the first house on the Moon/
There would be no neighbors, and
no population boom

– "Stone in Love with You," Stylistics, 1972

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 777 14th St., N.W., Washington, D.C. 20005.

MIGRATION AND RESIDENTIAL MOBILITY IN THE UNITED STATES, by Larry Long. New York: Russell Sage Foundation, 1988. 397 pages. $42.50 hardbound. ISBN 0-87154-555-1.

This book is one in the series of census monographs that was commissioned by the National Committee for Research on the 1980 Census. As the nation's foremost migration watcher, Larry Long is well known for his timely and thoughtful writings on U.S. migration trends and issues. In this readable, well-organized monograph, he draws from both historical and recent migration statistics, to provide a broad overview of the current state of the nation's population mobility and redistribution.

The book's introduction provides a useful orientation to the kinds of questions migration analysts ask, and the kinds of data that are available to answer them. Although census place-of-birth statistics have been compiled since 1850, the more useful "Where did you live 5 years ago?" question first appeared in the 1940 Census; and annual nationwide survey questions on migration did not begin until 1948. This expanded data base led to an "explosion" (Long's term) of empirical migration findings in the 1970s, and he concludes the chapter with an amply referenced characterization of the various concerns and approaches that are currently followed by contemporary migration researchers.

The next several chapters take up four fundamental questions on American migration: "How much?" "Where?" "Who?" and "With what effect?" Chapter 2 tells us "How much?" By reviewing overall levels of mobility across states, within states, and within counties, it shows that there are historical fluctuations in these levels rather than long-term trends. Yet since the mid-1970s both interstate and local mobility levels have declined. Long proposes several reasons for these declines, including the possibility that they are dominated by the unique experiences of the large baby-boom cohorts. Chapters 3 and 4 deal with the "Where?" question by examining shifts in the nation's migration streams since the mid-1930s. A number of useful maps and charts provide the reader with a ready understanding of how the geography of redistribution has changed, particularly since the late 1970s. Specific attention is given to recent selective migration from the rust belt states, and the relative contributions of repeat and return migration are assessed in some detail.

The questions of (a) "Who migrates?" and (b) "What effect?" migration imposes on various areas are addressed in Chapter 5. Here a time series of net migration statistics points up the dramatic effects of post-1970 redistribution for Northeast and Midwest losses, and Southern regional gains. Similar, though less accentuated patterns for the black and poverty populations prompt Long to review earlier research – relating welfare to northern in-migration – in a new context.

The relevant question now is: Will welfare benefits *inhibit the out-migration* of the northern poor? Original data are presented which suggest guarded support for this proposition. Further analyses evaluate the impact of education selectivity in migration, and conclude that some North-to-South transferral of human capital has resulted from recent migration-stream exchanges.

The final three chapters stray beyond the "W" questions to address important supplementary topics. Chapter 6 focuses on metropolitan and nonmetropolitan aspects of population mobility, and reviews recent research on nonmetropolitan growth, intermetropolitan migration determinants, and variations in local mobility levels. Chapter 7 analyzes national survey data on reasons for moving across states and regions, and presents some surprising findings regarding the importance movers attach to noneconomic motivations. The concluding chapter presents international comparisons of geographic mobility levels across several developed countries and shows that, in spite of declining mobility levels, Americans are among the most highly mobile of national populations.

This book constitutes a fine example of what a contemporary census monograph should be. It presents timely, useful information in a format that is digestible by a general audience. It includes well-chosen reference tables and charts that do not appear together in any other source. Most important, it is a finely crafted piece of scholarship that integrates the findings of current research in its treatment of each topic, and provides the reader with a comprehensive bibliography for further reference. This volume will be used as both a source book and a textbook, and is destined to become the standard reference in the field.

– William H. Frey

SPOTLIGHT

BRAZIL

Population (1989 est.): 147.4 million
Land area: 3.3 million sq. miles
Births per 1,000 pop. (1989 est.): 28
Deaths per 1,000 pop. (1989 est.): 8
Rate of natural increase (1989 est.): 2.0 percent
Total fertility rate (1989 est.): 3.4 children per woman
Infant mortality rate (1989 est.): 63 deaths per 1,000 live births
Life expectancy at birth (1989 est.): 65 years
GNP per capita (1989 est.): $2,020
Capital: Brasilia

by Wendy Patriquin

Brazil, the largest country in South America, ranks fifth in land area in the world and eighth in population. This expansive country borders every other country in South America except Ecuador and Chile, and contains diverse geographic regions. Some of the country's most important natural resources are the Amazon River and the huge tropical rain forests, which provide much of the world's oxygen. Brazil is the only Portuguese-speaking country in the continent. The people are predominantly Roman Catholic.

The heterogeneous population of Brazil can be traced back to the native Indians, the Portuguese colonists, black African slaves who were forcibly brought over from the 16th through the 19th centuries, European immigrants from the 19th and 20th centuries, and Japanese immigrants during the 20th century. The resulting culture, however, is predominantly Portuguese. On the surface it is racially tolerant, but underlying social and economic class tensions have sharp racial overtones.

Since World War II, Brazil's economy has expanded greatly, due primarily to its rapid rate of industrialization. Today only 30 percent of the labor force is employed in the agricultural sector. The government has urged a change from the heavily agricultural export economy of coffee, sugar and rubber. Brazilians now manufacture, among other things, cars, appliances, steel, chemicals, aircraft, and military equipment. Mining is an important component of Brazil's economy, as it is the world's largest exporter of iron ore. As in most countries, rapid industrialization led to unprecedented urban growth spawning slums and shanty towns and making it difficult to provide basic social and health services to the total urban population.

The population of modern Brazil has historically lived on the coast. Long-term efforts to settle the vast tropical interior have met with greater success in recent years, though at controversial cost to the environment. Some 15 million people now live in the Amazon Basin, double the 1970 figure.

Fertility rates in Brazil have been declining since the mid-1960s, particularly in the more urban and developed Southeastern region which includes Rio de Janeiro and São Paulo. Brazilian leadership in the late 1970s and early 1980s did not promote family planning activities, nor did it prohibit them. During this period, the Brazilian family planning association (BEMFAM) was able to expand their operations with less opposition than in previous years.

Despite the fact that the Brazilian government has no official family planning policy, almost two-thirds of all Brazilian women currently-in-union are using contraceptives. Over 90 percent of oral contraceptive and condom users obtained them from private pharmacies, underscoring the minimal role of organized family planning programs in supplying contraceptives. In 1986, 82 percent of women who wanted no more children and 72 percent of those who wanted to delay their next pregnancy were practicing contraception. This high prevalence rate has resulted in a fairly low total fertility rate, currently at 3.1 children per woman, a decline of about 1 child per woman since 1980. Although fertility has declined, the population has continued to grow at a rate of about 2 percent per year, due to falling mortality.

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